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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|----------------------------------|------------------|
| 10/031,972 | 05/02/2002 | Atsushi Miyazaki | YAMAP0798US | 1176 |
| 7590 | 11/04/2004 | | | |
| Neil A DuChez Renner Otto Boisselle & Sklar 19th Floor 1621 Euclid Avenue Cleveland, OH 44115 | | | EXAMINER BATTAGLIA, MICHAEL V | |
| | | | ART UNIT 2652 | PAPER NUMBER |
| DATE MAILED: 11/04/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|---------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/031,972 | Applicant(s) MIYAZAKI ET AL. | |
| | Examiner Michael V Battaglia | Art Unit 2652 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11 and 17-20 is/are allowed.
- 6) ☐ Claim(s) 12-16 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/1/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. Figures 19-22 should be designated by a legend such as –Prior Art– because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claim 21 is objected to because of the following informality. On line 5 of claim 21, replacing “out put” with –output– is suggested. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12 and therefore claims 13-16 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In lines 5-7 of claim 12, "correcting the output of the detecting section at generally **the same rate according to** a variation rate for an output of the control section" is unclear. Examiner will interpret the claim as if "according to" were replaced by --as-- in the prior art rejections below.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoki (US 5,712,839).

In regard to claim 12, Aoki discloses a laser power control method, comprising steps of: detecting reflected light or transmitted light from a recording medium (Fig. 5, element MD) by a detection section (Fig. 5, element 22); driving a laser (Fig. 5, element 1) by a control section (Fig. 6, element 27) according to an output of the detection section; and correcting the output of the detection section at generally the same rate as a variation rate for an output of the control section

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(Fig. 5, element 24). It is noted that the output of the detection section is corrected at the rate that the output of the detection section varies from the target write levels (Fig. 5, elements P_{bref} and P_{wref}). The output of the detection section has generally the same variation rate as the output of the laser, which has the same variation rate as the output of the control section. As a result, the output of the detection section is corrected at generally the same rate as a variation rate for an output of the control section.

In regard to claim 13, in the laser power control method of Aoki, when the output of the detection section is corrected, the detection section delays the start of correction by the time required for detecting reflected light or transmitted light from the recording medium. This is inherent because the output of the detection section cannot be corrected until the reflected light or transmitted light from the recording medium is detected and the result of detection output. Therefore, the detection section, which inherently requires a finite amount of time to detect the reflected or transmitted light and output the detection signal, delays the start of correction by the time required for detecting reflected light or transmitted light from the recording medium.

In regard to claim 14, Aoki discloses passing the reflection signal through a low pass filter before outputting it from the detection section (Fig. 5, element 22). It is noted that the reflected light detecting unit is incorrectly labeled as element 22 in Fig. 8 when it should be labeled as element 28 (Col. 7, lines 15-18). Therefore, in the laser power control method of Aoki, the start of correction is delayed by utilizing a phase delay characteristic, which a low pass filter inherently has.

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Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki in view of Satoh et al (hereafter Satoh) (US 5,214,626).

Aoki discloses the laser power control method of claim 12. Aoki does not disclose that when a laser irradiation position on the recording medium is shifted from a recording position, the control section changes an output of the laser so as to be equal to or smaller than a power appropriate for erasing data; when the laser irradiation position returns to the recording position, an output of the laser is changed to a previously-employed output.

Satoh discloses a track jump laser power control method, wherein when a laser irradiation position on the recording medium is shifted from a recording position, the control section changes an output of the laser so as to be equal to or smaller than a power appropriate for erasing data (Col. 6, lines 1-3, 21-22 and 27-29); when the laser irradiation position returns to the recording position, an output of the laser is changed to a previously-employed output (Col. 6, lines 49-50). Satoh discloses that by doing so recording to a transverse track during a track jump is prevented and the previously recorded signal will not be destroyed.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate into the laser power control method of Aoki the track jump

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laser power control method of Satoh, the motivation being to prevent recording to a transverse track during a track jump and avoid destruction of a previously recorded signal.

Citation of Relevant Prior Art

8. Yamashita (US 6,363,047) discloses a laser power control method that switches between the output of a reflected light detector and a monitoring light detector to control laser power based on whether a pit area or a magneto optical area is being reproduced (Fig. 1). Akagi et al (US 5,495,463) discloses recording optimum power control test signals in gaps and uses a photodetector to monitor light emission power to set recording/reproduction powers (Figs. 4 and 7). Zaima (US 6,333,909) (Fig. 1) and Murakami et al (US 5,805,559) (Figs. 3 and 4) disclose using both a monitoring detector and a reflection detector to correct and optimize laser output. Kobayashi et al (US 4,796,250) discloses selecting one of the outputs from recording, erase and reproduction laser power controllers and correcting output from each of the controllers using a laser emission monitoring detector (Fig. 7).

Allowable Subject Matter

9. Claims 1-11 and 17-20 allowable over the prior art of record.

In regard to claim 1, none of the references of record alone or in combination disclose or suggest a method for controlling an output power of a laser which is used for recording information on a recording medium, comprising steps of: detecting emitted light of the laser by a first detection section; obtaining a first driving current of the laser by a first control section based on an output of the first detection section; detecting reflected light or transmitted light from the recording medium by a second detection section; and obtaining a second driving current of the laser by a second

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control section based on an output of the second detection section, wherein **the laser is driven based on the first driving current or the second driving current while the first control section and the second control section are operated alternately such that the second control section does not operate when the first control section is operating, and the first control section does not operate when the second control section is operating and information is recorded on the recording medium while the second control section is operating.**

In regard to claim 19, none of the references of record alone or in combination disclose or suggest an optical disc apparatus for recording/reproducing information on an optical disc by using a laser, comprising: a first detection section for detecting emitted light of the laser; a first control section for obtaining a first driving current of the laser based on an output of the first detection section, and outputting the obtained first driving current; a second detection section for detecting reflected light or transmitted light from the optical disc; a second control section for obtaining a second driving current of the laser based on an output of the second detection section, and outputting the obtained second driving current; **a selection section for selecting one of the outputs of the first and second control sections as a driving current for driving the laser; and a driving section for driving the laser based on the selected driving current, wherein information is recorded on the optical disc while the second control section is operating, so that recording of information can be performed with an appropriate laser power.**

10. Claims 15 and 16 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

None of the references of record alone or in combination disclose or suggest a laser power control method, comprising steps of: detecting reflected light or transmitted light from a recording

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medium by a detection section; driving a laser by a control section according to an output of the detection section; and correcting the output of the detection section at generally the same rate as a variation rate for an output of the control section; wherein: table data including a plurality of output values of the control section that are identified by addresses, which are corresponding output values of the detection section, is employed; the control section selects data which is identified by an address in the vicinity of an output value of the detection section and outputs the selected data; **an output of the detection section which is output when an emission limit of the laser is exceeded is previously calculated as a maximum output value before the control section is operated: the address corresponding to the maximum output value is used as a selectable maximum address; and when data which is selected when the control section is operated is an address equal to or greater than the maximum address the output of the control section is clipped with data represented by the maximum address.**

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (703) 305-4534. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

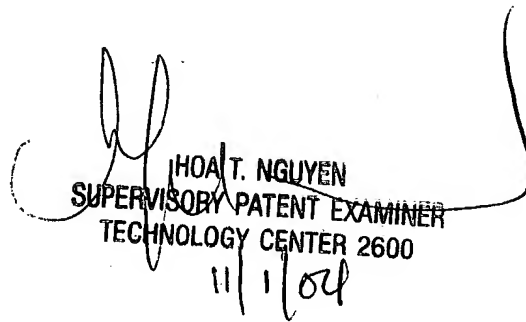
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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